

CMOS Sensor Array with a Memory Interface

Odutola Oluseye Ewedemi,

Zhonghan John Deng,

Ricardo Jansson Motta,

5 and David Xiao Dong Yang

ABSTRACT OF THE DISCLOSURE

An image sensor includes a sensor or a pixel array, a data memory, and a logic circuit, all  
10 fabricated on the same integrated chip. The sensor or pixel array outputs digital signals as pixel data representing an image of a scene. The data memory is coupled to the sensor or pixel array for storing the pixel data. The logic circuit is coupled to the data  
15 memory and provides a memory interface for exporting the pixel data. The memory interface can be one of a SRAM, a DRAM or a packet protocol synchronous DRAM interface. Including a memory interface in the image sensor allows the image sensor to be coupled directly  
20 to the memory interface port of an external image processing unit. The image processing unit can access the image sensor using conventional memory access protocols, thus improving the efficiency and reducing the operational complexity of the image processing  
25 unit.